HIGHER EDUCATION CIRCULAR NO. 5. DECEMBER 15, 1917.

DEPARTMENT OF THE INTERIOR,

BUREAU OF EDUCATION.

THE WORK OF AMERICAN COLLEGES AND UNIVERSITIES DURING THE WAR.

REPORT OF THE WORK OF THE UNIVERSITY SECTION OF THE COMMITTEE ON ENGINEERING AND EDUCATION OF THE ADVISORY COMMISSION OF THE COUNCIL OF NATIONAL DEFENSE.

The university section has held two meetings since July 4. The fifth meeting of the section was held September 11. The principal action taken was the provision for the establishment of an executive committee to act for the section whenever immediate action was required. The members of the executive committee are President Frank J. Goodnow (chairman), President R. M. Pearson, President F. C. Ferry, Dean F. L. Bishop, and Dr. S. P. Capen. The section also prepared a program for a general gathering of college and university executives, to be called by the chairman of the committee, to meet at Philadelphia, October 19 and 20.

TECHNICALLY TRAINED MEN AND THE DRAFT.

The executive committee met on October 5 to consider primarily the very serious effect of the existing draft regulations on the supply of technically trained men for the military service of the country and for the supporting industries. The committee sent resolutions to the advisory commission urging that arrangements be made for the continuance at the technical schools of students in veterinary medicine and in engineering; that agricultural students who are drafted be assigned to complete their course in college: and that the President be requested to put this plan into effect through Executive order. The resolutions were accompanied by a statistical report showing the numbers of students affected.

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BRINGING EDUCATIONAL FORCES TO BEAR UPON PROBLEMS OF THE WAR.

The university section of the committee on engineering and education met at the call of the chairman at Drexel Institute, Philadelphia, October 19 and 20. The morning and afternoon sessions were devoted primarily to reports from the officers of the committee and from representatives of other agencies engaged in bringing educational forces to bear upon the problems of the war.

President Ferry reported as secretary, outlining the activities of the university section of the committee since its establishment on the 5th of May. Much of the substance of his report has been included in the preceding circulars of this series. He took up the items in the statement of principles made by the representatives of higher institutions assembled in Washington May 5 and showed how the committee has endeavored to carry forward each of the actions or policies suggested. Briefly, he indicated that the committee has served as a medium of communication between the Government and the colleges with respect to several important matters.

The first principle stated by the college representatives on May 5 was that men below draft age should continue their college training. In support of this policy the committee has secured statements from various officials of the Government and from representatives of higher education in allied countries, which have been circulated among the colleges. The second principle urged the modification of calendars and curricula. The committee has appointed several subcommittees to study in detail the possible modifications in the courses of study of arts colleges, colleges for women, and engineering schools. The third principle established by the university representatives on May 5 was that students in applied science should be allowed to finish their college courses before being called to active service. The committee has continually urged this matter upon the War Department.[1] The fourth principle declared the desirability of giving military training in all colleges having sufficient enrollment. Whether influenced or not by the publicity given this matter by the committee, a large percentage of the colleges of the country have adopted military training. The fifth principle related to the medium of publicity through which the Government should reach the colleges and urged that the Bureau of Education of the Department of the Interior and the States Relations Service of the Department of Agriculture be used for this purpose. Thus far all the circulars and published letters of the committee have been issued through the Bureau of Education. Finally, the college and university representatives

[1] At the time of the report students of medicine and dentistry had been released from immediate military service. Subsequently similar privileges were extended to students of veterinary medicine and of engineering.

urged the dissemination of information concerning the war and the interpretation of its issues by colleges as one of their major tasks. Reports which have been received indicate that a number of institutions have already been rendering this service effectively.

Dr. Capen reported on the special contributions of colleges and universities to the national service as these have been revealed in the replies to several inquiries sent out by the committee and by the Bureau of Education. A portion of his statement is here quoted:

The committee has endeavored to launch a propaganda for keeping up collegiate enrollments. Statements urging students to go on with their education were obtained from officials high in the Government, and finally from the President himself. The effect of these statements, which were circulated also in much of the literature emanating from the colleges during the summer, may fairly be read in the enrollments.

The Bureau of Education has secured from 89 representative institutions comparative enrollment figures for the years 1916 and 1917. The falling off in the total enrollment for the present year amounts in all these institutions combined to 14.2 per cent. Twenty-three engineering schools report a falling off amounting to 14.3 per cent. The bureau has heard from but six agricultural colleges. The falling off in the total enrollment in these institutions is nearly 30 per cent.[1]

Except for agricultural college students, the reports of the enrollment in freshman classes are distinctly encouraging. Colleges of liberal arts, in which it was expected the largest decreases would appear, report thus far a loss of only 6.6 per cent in freshman classes. Colleges of engineering report but 3.4 per cent decline in the freshmen enrollment. The decline in the freshmen enrollment in agricultural colleges is unfortunately 22.6 per cent.

Some figures have been assembled to show the actual contribution of certain selected institutions to the military and naval service. Detailed reports from some 30 first-class engineering schools show that approximately 30 per cent of the students enrolled last year in the three upper classes are now in active military service. The great majority of these have enlisted. About a tenth of them, however, have been drafted. The committee has every reason to believe that colleges of arts and sciences have made an equally great contribution, although no figures are at hand as yet to confirm its impression. It is unquestionably true that college students as a class have made a larger contribution to active military service than any other class in the population.

The approximately 50 reports received record a wide range of activities, which in their totality represent a really inspiring contribution of colleges and universities to the national service. Naturally the special work done by each institution is determined to some extent by the size and character of the institution and by the peculiar demands of the locality. These facts should be taken into account both by those who would estimate what various institutions have already accomplished and by college executives in planning new activities. There are fundamental distinctions, for example, between what the great universities equipped with special laboratories and research staffs may do without dislocating their educational machinery, and what may reasonbly be expected

[1] Later figures show, for 351 institutions, a falling off of 13.8 per cent. For men alone, in 333 institutions, the decrease is 20 per cent; for women, 1.7 per cent.

of independent colleges which have no university affiliations. The Dartmouth College report pertinently remarks:

"Colleges will perform incidental special service to the Nation, but, as distinguished from the universities, the colleges should place emphasis upon their duty of sticking to the job of turning out educated men. For if the spreading war is proving the need of anything in the life of mankind, it is the need for well-founded, sane, and generous thinking, even more than for technical proficiency."

In accordance with these distinctions an attempt has been made to classify the services of higher institutions under six heads: They are:

1. Special courses for regular students, introduced as a result of the war.
2. Special extension courses.
3. New schools or courses established for the benefit of the military or naval services directly.
4. Extra academic service of students and professors.
5. Changes in college calendars.
6. Utilization by the Government of research laboratories and of professors in an expert capacity.

Special courses for regular students introduced as a result of the war.—A large number of special courses for regular students have been introduced as a result of the war. The commonest of these naturally are courses in military training. Practically all institutions, except colleges for women, report military training. In many colleges and universities it has been made compulsory. Some, the State institutions and a few others, have units of the Reserve Officers' Training Corps. The rest have made out as they could—a few with adequate instructors, a large number evidently with instructors who are not wholly satisfactory. The committee hopes to assist in putting this work on a more acceptable basis somewhat later.

An interesting variant of military training is being given by Haverford College. The following is a somewhat abridged quotation from the documents submitted to the committee by the institution:

"The ideals of Quakerism, which is the controlling spirit among the board of trustees of Haverford, would not permit securing the services of a Regular Army officer for drill on the campus, yet Haverford's traditions of public service are not of such a kind that she could stand still and aloof from the problem which all other institutions were trying to solve. The officers and students of the college, therefore, worked out the following plan: The daily program begins earlier in the morning, and lecture periods are cut short 10 minutes each. The afternoon is then devoted to outdoor work, consisting of setting-up exercises; ambulance and stretcher work; camping; assembling, dismantling, and running automobiles; and spade work. The students thus occupied constitute the Haverford emergency unit, 100 members of which have already proceeded to France to work at the reconstruction of the devastated sections of that country."

The great problem of conservation, especially the conservation of food, has received attention not only in agriculture colleges, but in colleges of arts and sciences, and especially in colleges for women. About a quarter of the institutions reporting announce courses in food conservation. Red Cross work also is given in almost all the women's colleges that have been heard from. This is paralleled by courses in sanitation and hygiene, and by work with surgical dressings in several of the coeducational colleges.

A few engineering schools have inaugurated courses in such military applications of engineering subjects as map making, military surveying, bridge building, telegraphy, radio operation and signaling, and automobile repairing.

Five institutions report special courses in spoken French for prospective soldiers. In certain institutions the work in history, government, and economics has been recast, to illuminate the historical background and the governmental and economic changes brought about already by the war.

Special extension courses.—Special extension courses are in general of two sorts, those relating to conservation and food production, and those designed to give information on the war. The meeting of college presidents held under Dr. Godfrey's chairmanship, on May 5, emphasized the obligation resting on colleges to interpret the meaning and the issues of the war. Probably all will agree that this is an exceedingly necessary service which colleges are peculiarly well equipped to render. Few, however, have apparently improved their opportunities to the full thus far. One of the most interesting contributions reported to the committee appears in the summarized account of the work done by the University of North Carolina.

"The university believes that the work of the extension department in connection with its war relations is its chief service. Its concern is educative, and its field is making clear American aims, purposes, ideals, etc., directly in relation to the war, and indirectly in giving its background. Its function of teaching is to be exercised through (*a*) lectures, (*b*) publications, (*c*) direct class instruction through extension centers, (*d*) the organization of public-school and high-school students in an association possibly called 'The Lafayette Association,' using six or eight lesson outlines and syllabi, carrying out under the direction of the university the letter of President Wilson dated August 23, the association to be organized along the lines of the State High-School Debating Union. To this end bibliographies are to be furnished, articles prepared for educational journals in the South, the ideas of democracy emphasized in high-school courses in English, debating, outlines from current literature in correlation with history, etc."

New schools and courses.—It is well known that the Government has established schools or courses for various kinds of special training for enlisted men and for members of the reserve forces at a number of institutions. There are for example, eight aviation schools and numerous schools of telegraphy and radio telegraphy. Harvard has a school for naval ensigns; Oberlin is training medical aids for the Surgeon General's Department. Storekeeper's courses for the Quartermaster's and Ordnance Departments are offered by several institutions. Northwestern is teaching the soldiers of Fort Sheridan to swim. All of these represent direct contributions to the military or naval service. Naturally they are contributions that not all institutions are in a position to make.

Extra academic services of students and professors.—Among the most interesting efforts reported are those classified as extra-academic services of students and professors. Here are some samples:

The organization and dispatch to the front of hospital units are reported by Yale, Northwestern, Boston University, Columbia, and Harvard. Ambulance units have been sent by several of the same institutions and by Clark. Reports from Smith, Vassar, Pennsylvania College for Women, and Barnard indicate that the students of all three are active in Red Cross and French and Belgian relief. Barnard and Vassar have had groups of farm workers. Barnard has also furnished speakers for liberty loan campaigns.

Changes in college calendars.—The meeting of May 5 suggested the desirability of the adoption of the four-quarter year by colleges and universities. Unfortunately it has been impossible to find out how many institutions have changed from the three to the four-quarter basis. This change is reported by Leland Stanford Junior University, Colorado State Teachers College, Michigan College of Mines, three of the constituent institutions of the University of

Montana, the College of Industrial Arts of Texas, the University of Pittsburgh, Iowa State College of Agriculture and Mechanic Arts, and the University of Washington. These are probably but a small proportion of the colleges that have already taken this step.

A considerable number of institutions allowed students to leave before the end of the academic year without loss of credit to engage in agriculture or military service. Purdue and Lawrence College report the postponement of the opening of the fall term to accommodate students engaged in industry and agriculture.

The utilization by the Government of research laboratories—and of professors in an expert capacity.—It was generally recognized when the United States entered the war that the country possessed in its university laboratories and staffs of trained research workers an immense scientific capital which could be made immediately productive. Various agencies were at once established to facilitate the use of these resources by the Government and to designate problems for investigation which possessed special military importance. The result has been twofold. The great centers of research are already busy with Government work. And large numbers of academic experts in pure and applied science have been drawn away from their regular university duties and are now in Government services. The committee is not surprised that it has been unable to secure even a partial report of the contribution of university laboratories to the present national enterprise. That contribution can not be discussed until after the war.

But the transsubstantiation of the university professor is a cause for surprise and for the liveliest satisfaction. The university teachers who have been called from the classroom and the laboratory to become the expert advisers of the Army, Navy, the War Industries Board, the Food Administration, and of nearly every other branch of the Government engaged in preparing for and waging war are to be numbered literally by hundreds. They are rendering services which none but men so trained can render. They are indispensable. The effect of this service on the status of the university professor in the public mind will be revolutionary.

But the summoning of the professors for Government service raises a serious problem for university executives. What shall be the financial relation of these men to their institutions? The majority of colleges which have reported upon this point have determined to give any professor so summoned leave of absence and to make up the difference between his regular salary and the amount he receives from the Government while in Government service.

President Suzzallo, who is the chairman of the Washington State Council of Defense, reported on the educational work done by the education committees of that council. He dwelt with particular emphasis upon the effective service rendered by college and university teachers in explaining the serious issues involved in threatened labor disturbances. Through the active and effective efforts of the teachers of the State, especially the teachers of economics in the higher institutions, numerous labor troubles which would have been disastrous for important Government work were averted.

ENGINEERING SCHOOLS AND THE WAR.

Dean Bishop made a report for the subcommittee appointed to study the relation of engineering schools to the National Gov-

ernment during the war.[1] The following is the substance of the report:

The committee has consulted with the heads of various bureaus, divisions, and departments of the Department of War and the Department of the Navy as to the probable needs for scientifically and technically trained men in connection with the military operations. It has held conferences with representatives of the Council of National Defense, the Shipping Board, the Department of Labor, the National Research Council, the Federal Board for Vocational Education, and the Bureau of Education.

The committee recommended to the Secretary of War as follows:

"That an engineer familiar with the equipment and capacity of the higher technical institutions of the country be commissioned in the Army and assigned the task of coordinating the needs of the Army for technically trained men with existing educational facilities."

Just prior to the meeting of the committee on August 31, the Secretary of War detailed an officer of the General Staff to study the needs of the War Department for technically trained men and the methods of securing the cooperation of educational institutions of the country toward meeting these needs. The committee has held profitable conferences with this officer and will lend its aid as far as may be desired in the solution of this problem.

The committee's interviews with the heads of divisions of the War Department showed that there were a few definite needs in the way of short-course training which the technical schools of the country might meet at once. A typical problem was presented by the Signal Corps, which desired technical instruction for six depot companies, one for each Army department, each depot company consisting of 175 enlisted men. The committee found an institution equipped and ready to furnish this training in each of the departments and made the preliminary arrangements for the Signal Corps.

The committee also recommended to the Secretary of War that students and alumni of technical institutions who are drafted into the National Army be assigned to branches of the service for which their special technical training fits them. The Secretary issued an order providing for such assignments in all draft camps. It undertook to secure for the Secretary lists of such students and alumni thus far drafted into the national service. These lists are being compiled and will shortly be sent to the Secretary's office.

At the request of the Secretary of the Navy, the committee has compiled a list of engineering schools whose graduates may be considered eligible for competitive examination for appointment as acting ensign in the Navy for the performance of engineering duty only, in accordance with an act of Congress approved August 29, 1916.

The committee is not yet prepared to recommend any fundamental changes in courses of study as the result of its investigation. It is of the opinion, however, that certain military engineering topics may profitably be introduced into the regular courses as soon as possible. The committee has in mind such topics as military-bridge building, the laying out and sanitation of camps, the making and reading of maps, rapid reconnaissance, the laying out of trenches, etc. It suggests that engineering schools endeavor to secure the textbooks used by the Army in these and other military subjects for reference. Complete lists of these textbooks may be secured on application from the United States Infantry Association, Union Trust Building, Washington, D. C.

[1] The members of the committee are F. L. Bishop (chairman), M. S. Ketchum, C. R. Mann, C. S. Howe, and S. P. Capen.

OTHER FEATURES OF THE DREXEL MEETING.

Dr. Guy S. Ford gave the meeting an account of some of the educational aspects of the work of the Committee on Public Information. He described the pamphlets issued by the division of civic and educational cooperation, explained their methods of distribution, and urged the greater use of this material by colleges in instructing not only their own constituencies, but the general public, in regard to the meaning of the war.

The university section met for formal action on the morning of October 20. It ratified the action of the executive committee in addressing resolutions to the Council of National Defense regarding the treatment of technical students. It also passed the following resolution, which had been proposed by the executive committee:

Resolved, That in all arrangements to be made for the giving of instruction at the universities and colleges at the request of the Government, provision be made for compensation for only such additional expense as may be actually incurred by the institution concerned.

It was also voted that the executive committee be requested to formulate and present to the appropriate body a request that in the making of any demand on the part of the Government for college men for service the call be sent to all the appropriate colleges or universities, and at such early time as may leave to the colleges and universities concerned the possibility of action in each instance. Attention was directed to the fact that calls for engineers, and perhaps for other classes of college or university graduates, had been made at so late a time as to leave the college or school concerned no possibility of assembling or even of nominating suitable men.

THE NEW CLASSIFICATION OF SELECTIVES.

When the new classification of selectives was announced, it appeared to the officers of the committee that all technical students, as well as students in colleges of arts and sciences, would be in Class I, 1. Since the committee had already put itself on record with regard to the desirable treatment of technical students, it concluded to call the attention of the various educational and professional interests to the emergency. It therefore notified the Association of American Universities (meeting at Iowa City, Nov. 8 to 10), the Association of American Agricultural Colleges and Experiment Stations (meeting at Washington, Nov. 14 to 16), the National Research Council, the Society for the Promotion of Engineering Education, the Council of the American Society of Civil Engineers, the Council of the American Society of Mechanical Engineers, and the Council of the United Engineering Societies. The recommendations of several of these bodies to the Secretary of War are given herewith:

[Communication of the Association of American Universities]

WASHINGTON, D. C., *November 17, 1917.*

Hon. NEWTON D. BAKER,
Secretary of War, Washington, D. C.

SIR: The Association of American Universities requests that the privilege of enlistment accorded to the medical profession, including students and internes, under orders of the War Department, Office of Surgeon General, dated September 4, 1917, be extended as follows:

To the engineering professions: Civil, mechanical, electrical, mining, metallurgical engineer, geologists, including junior and senior students and graduates in educational institutions, with the privilege of enlisting in the Engineers Reserve Corps, or in such other branch of the service as you may direct.

To chemists, including junior and senior students and graduates in educational institutions with the privilege of enlisting in the Chemical Service Section of the National Army, or in the Ordnance Reserve Corps, or in the Signal Reserve Corps, or in such other branch of the service as you may direct.

To physicists, meteorologists, and astronomers, including junior and senior students and graduates in educational institutions, with the privilege of enlisting in the Ordnance Reserve Corps or in the Signal Reserve Corps, or in such other branch of the service as you may direct.

To bacteriologists, physiologists, physical chemists, biologists, zoologists, pathologists, anatomists, men trained in public health, hygiene, or sanitation, including junior and senior students and graduates in educational institutions, with the privilege of enlisting in the Medical Reserve Corps, or in such other branch of service as you may direct.

To agriculturists and botanists, including junior and senior students, and graduates in educational institutions, with the privilege of enlisting in an Agricultural Service Section of the National Army, or in such other branch of service as you may direct.

The Association of American Universities further requests that, pending the elaboration of the details incident to the creation of these privileges, the professional men under consideration be placed in class 3 of the new classification of drafted men, or that agriculturists be classed as food producers.

These requests are prompted by the firm conviction that, if granted, the most efficient service of scientifically trained men will be secured for the conduct of the war, and that some of the unforeseen, unfortunate complications which have resulted from the first draft will be obviated.

During its recent session at Iowa City, the Association of American Universities wired to the President a unanimous resolution expressing unswerving loyalty and support in the present crisis. The requests now made by the Association of American Universities are prompted by the same loyalty and devotion.

The committee of the Association of American Universities appointed to formulate and present to the Secretary of War the foregoing requests offers its services in working out the details necessary in creating the privileges asked for, if these privileges are not already provided for by intended interpretation of the new classification of drafted men.

These suggestions are prompted by the following observations:

(*a*) That there exists a strong popular feeling that the necessity of organizing the National Army, with the least possible delay, has prevented the application of the principles of selective draft as the public understood them. In general, persons engaged in industrial enterprises have been discharged only if engaged in an enterprise contributing directly but not indirectly to the

effectiveness of the military establishment. The maintenance of the national interest, other than purely military, does not seem to have been given sufficient weight by the district boards.

(*b*) That many highly trained professional, scientific men, such as engineers, chemists, physicists, etc., are now privates in the training camps of the National Army. These men could give more efficient service for the conduct of the War if they were assigned or held available for the exercise of such services as they are best fitted for by their training.

(*c*) That by voluntary enlistment of university men in service for which they are not best fitted the ranks of the educational institutions have already been alarmingly depleted as regards students, teachers, and research men. The university men have shown the highest type of patriotism irrespective of their own interests and have probably responded to the call of the country more enthusiastically than any other class of men. There is immediate danger that, without specific provision to the contrary, the universities will lack the teachers and students necessary to provide the Army and Navy with the highly trained men who will be required for the successful conclusion of the war.

It is respectfully urged that professional students be instructed to enlist in the reserve corps of the various branches of the service, with the privilege of furlough for the completion of their training similar to that adopted to secure the most efficient service of medical men.

It is also suggested that only men of proven ability be given this opportunity. Students, teachers, and research men should be given the opportunity of enlistment with the privilege of furlough or discharge only subject to the recommendations of the presidents of the institutions concerned. For others, the decision should rest with the authorities designated by the Secretary of War.

The Association of American Universities believes that the foregoing recommendations are in accord with representations previously made to you by individuals and organizations, among them the National Research Council, the Society for the Promotion of Engineering Education, the Bureau of Education, the president of the Massachusetts Institute of Technology, and others.

Trusting that this request will be given your early and favorable consideration, the undersigned committee of the Association of American Universities remain

Very respectfully, yours,

ARMIN O. LEUSCHNER, *Chairman*,
RAY L. WILBUR,
ARTHUR E. KENNELLY,
Committee.

DECEMBER 7, 1917.

The SECRETARY OF WAR,
Washington, D. C. [1]

The Council of the American Society of Mechanical Engineers heartily supports and approves the resolutions passed and forwarded to you yesterday by the Engineering Council with respect to the maintenance of technical schools in full operation, and, in addition, has passed the following:

1. The Council of the American Society of Mechanical Engineers recognizes the serious responsibility of the engineer in the prosecution of the war not only in the corps of engineers, but in the many other branches of the national service

[1] Same message sent to the Provost Marshal General, Washington, D. C.

where highly trained engineers are required. It urges the importance as a war measure of utilizing to the fullest the present engineering ability, and of maintaining unimpaired the engineering strength of the nation for the successful prosecution of military operations and for the support of the sustaining industries.

2. To this end the Council of the American Society of Mechanical Engineers points out the necessity for establishing an agency for coordinating the military needs for technically trained men, the available supply of such, and the sources of training. It urges that schools of engineering as the principal sources of this training be regarded as closely allied in the national purpose with the military and naval schools of the Nation and that in the further administration of the draft the attitude of the Government toward them be such as to maintain the efficiency of these schools.

3. The plea for attention which is herein urged is not made in the interest of schools or of students, but is made solely for the full utilization of existing engineering resources and the preservation of a source of supply of engineers.

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS,
CALVIN W. RICE, *Secretary.*

[Communication from the Society for the Promotion of Engineering Education to the Secretary of War, December 7, 1917.]

The Society for the Promotion of Engineering Education, representing 110 engineering colleges, through its officially appointed committee wishes to present to you the following statement in regard to the continuance of engineering education during the war:

1. We believe that no engineering student should be exempt from military duty.

2. We believe that engineering students should be allowed to finish their courses before being called to active service, so that they may render more effective service than they could as untrained men.

3. We especially request that you determine and put into effect, under the terms of and in accordance with the spirit of the Selective Service Act, a method whereby all the students in the engineering colleges who are in good standing in their classes will be allowed to continue their studies until graduation and will then be placed in positions where their technical training will enable them to render the most effective service to the Nation.

4. That instructors needed to teach these students will be allowed to continue their work in the colleges.

In support of the above request we would respectfully call your attention to the following facts:

1. There are 4,300 graduates of engineering schools of the class of 1917. The greater part of these are already in the national service. One-third of the class of 1918 has already enlisted without waiting for graduation. The danger is not that students in engineering will refrain from enlisting, but that they will enlist before they are sufficiently trained to be most effective in active service.

2. Practically all engineering students of draft age are in class 1a, which is to be called first. At present 77 per cent of the seniors and 40 per cent of the juniors in engineering schools are of draft age, so that when class 1 has been called there will be taken from the engineering schools approximately 2,400 juniors and 3,800 seniors, a total of 6,200 men. This number is less than one-third of 1 per cent of the total of class 1, but it is more than 7 per cent of all the engineers of the country.

3. The present demand for trained engineers is far in excess of the men available. Government departments and industries essential to the conduct of the war are continually asking the schools to recommend technical graduates, but few are available.

4. The plea for attention which is herein urged is not made in the interest of school or of students, but is made solely for the utilization and preservation of a source of supply of technically trained men for the war.

5. The desired result might be accomplished by an Executive order with regard to engineering students similar to the Executive order issued with regard to students of medicine.

Pending the final action of the War Department upon this question, Secretary Baker addressed to Dr. Hollis Godfrey the following letter:

WASHINGTON, *November 23, 1917.*

MY DEAR DR. GODFREY: The successful outcome of the war is so dependent upon the application of science that the United States can ill afford at this time to risk any diminution of this supply of technically trained men. Such a diminution we must in part suffer by reason of the fact that class exemptions in the execution of the Selective Service Law are prejudicial to its general success; but I have constantly in my mind the fact that the Government service will demand more and more scientifically trained men, and so I hope those who are in charge of scientific institutions will impress upon the young men the importance and desirability of their continuing their studies except to the extent that they are necessarily interrupted by a mandatory call under the provisions of the Selective Conscription Law.

Cordially, yours,

NEWTON D. BAKER,
Secretary of War.

DR. HOLLIS GODFREY,
Drexel Institute, Philadelphia, Pa.

PROVISION FOR ENGINEERING STUDENTS IN THE ENLISTED RESERVE CORPS.

On December 8 the Secretary of War authorized the issuance of regulations which will permit students in schools of engineering to finish their courses before being called upon for active military service. This ruling is to be embodied in section 151 of the Selective Service Regulations about to be issued by the Provost Marshal General. The paragraph in question follows:

Under such regulations as the Chief of Engineers may prescribe, a proportion of the students pursuing an engineering course in one of the approved technical engineering schools listed in the War Department as named by the school faculty may enlist in the Enlisted Reserve Corps of the Engineering Department and thereafter, upon presentation by the registrant to his local board of a certificate of enlistment, such certificate shall be filed with the questionnaire and the registrant shall be placed in Class V, on the ground that he is in the military service of the United States.

In advance of the issuance of the regulations by the Chief of Engineers, that officer ruled that the privilege referred to in the foregoing paragraph may be granted only to those students who

are given a certificate properly attested by the head of the institution, as follows:

I hereby certify that _____ is a regular student of the _____ class in good standing, as a candidate for an engineering degree at _____, and that in the judgment of the faculty of this school, based upon his academic record, supplemented by his relations with fellow students and by observation of his instructors, he may fairly be regarded as deserving a place in the first third, qualitatively, of the young men graduating from this institution during the past 10 years.

The rules to be formulated by the Chief of Engineers will be sent to the schools on the official list as soon as they are ready. The committee on the relation of engineering schools to the Government, of which Dean Bishop is chairman, is preparing a statement as to how these rules may most effectively be carried out. Sixty days from December 15 will be required by the Provost Marshal General to classify the registrants into the five classes. The committee understands that it is unlikely that any draft will have to be made before this classification is completed. Men who desire to apply for enlistment in the Enlisted Reserve Corps are advised not to delay their application unduly.

WASHINGTON : GOVERNMENT PRINTING OFFICE : 1918